

IN THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Claims 1-14 (Canceled)

15. (original) A method of monitoring process exhaust gas containing a plurality of gas components generated from a process carried out for a process object under predetermined process conditions,

said method comprising the steps of:

sampling the process exhaust gas;

analyzing the components of the sampled process exhaust gas;

comparing the gas analysis result with a reference analysis result of an analysis of process exhaust gas generated as a result of a process carried out under reference process conditions; and

generating and outputting a signal indicating a process error when it is determined that the amount of at least one gas component of the process exhaust gas has changed to an amount that is outside a predetermined range set around a reference value obtained from the reference analysis result.

16. (original) The method as claimed in claim 15, wherein the step of analyzing the components of the process exhaust gas is carried out by a Fourier-transform infrared spectroscope.

17. (original) The method as claimed in claim 15 or 16, further comprising the step of giving an alarm in accordance with the signal indicating a process error.

18. (original) The method as claimed in claim 15 or 16, further comprising the step of automatically adjusting process conditions in accordance with the signal indicating a processing error.

Claims 19-20 (canceled)

21. (currently amended) A method of controlling a semiconductor manufacturing device, comprising the steps of:

sending analysis data obtained from an analysis made by a Fourier-transform infrared spectroscope on components of exhaust gas exhausted from the semiconductor manufacturing device, the analysis data being sent to a data communication network;

determining from the analysis data sent from the data communication network whether an error exists in process conditions for the semiconductor manufacturing device;

transmitting a signal indicating an error and [[an]] a presumed cause of the error in the process conditions to the semiconductor manufacturing device via the data communication network; and

accumulating and registering the analysis data in a database.

22. (original) The method as claimed in claim 21, wherein  
the signal indicating an error is provided with accessory information related to the error and then transmitted to the data communication network,

the error in the process conditions and the cause of the error are reported to an operation manager in accordance with the signal indicating the error, and

information related to the error is also reported to the operation manager in accordance with the accessory information.

23. (original) A method of controlling a semiconductor manufacturing device, comprising the steps of:

sending analysis data obtained from an analysis made by a Fourier-transform infrared spectroscope on components of exhaust gas exhausted from the semiconductor manufacturing device in operation, the analysis data being sent instantly to an analysis center;

constructing a database by accumulating the analysis data from a plurality of semiconductor manufacturing devices in the analysis center; and

controlling each of the plurality of semiconductor manufacturing devices in accordance with the database.

Claim 24 (canceled)

25. (currently amended) The method of monitoring exhaust process gas as claimed in claim 16, wherein the process exhaust gas is sampled at an exit of a vacuum pump that ~~exhaust~~ exhausts the process exhaust gas to as to be supplied to said Fourier-transform infrared spectroscope.